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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PANKAJ MEHRA

Appeal 2009-007091
Application 10/722,180
Technology Center 2400

Before JOHN C. MARTIN, MAHSHID D. SAADAT,
and ROBERT E. NAPPI, *Administrative Patent Judges*.

SAADAT, *Administrative Patent Judge*.

DECISION ON APPEAL¹

¹ The two month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304 or for filing a request for rehearing as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

Appellant appeals under 35 U.S.C. § 134(a) from a Final Rejection of claims 1-44, which constitute all the claims pending in this application.² We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

STATEMENT OF THE CASE

Appellant's invention relates to the configuration of multi-fabric networks, such as computer networks. A plurality of first nodes is assigned as a balanced incomplete block design of the form $2-(v, k, 1) = b$, wherein v first nodes, arranged in b groups of k first nodes, are interconnected such that a pair of first nodes appears in only one group of the b groups. A plurality of sets of second nodes are provided such that each first node is associated with at least one set of second nodes and network paths are determined from each second node of the plurality of sets of second nodes to every other second node. (Abstract).

Claim 1, which is illustrative of the invention, reads as follows:

1. A multi-fabric interconnection system, comprising:
a plurality of first nodes interconnected as a balanced incomplete block design of the form $2-(v, k, 1) = b$, wherein v first nodes, arranged in b groups of k first nodes, are interconnected such that each pair of first nodes appears in only one group of the b groups, and
a plurality of first forwarding nodes configured to interconnect the plurality of first nodes;

² The Examiner has withdrawn the rejection of claims 12, 30, and 42 indicating they would be allowable if rewritten in independent form incorporating all of the limitations of the base claims and any intervening claims (Ans. 2). The Final Rejection of claims 1-11, 13-29, 31-41, 43, and 44 remains on appeal.

a plurality of sets of second nodes, wherein each second node is connected to one of the first nodes, and wherein each of the second nodes is interconnected to every other second node.

The Examiner relies on the following prior art in rejecting the claims:

Baty	US 5,243,704	Sep. 7, 1993
Kim	US 5,892,932	Apr. 6, 1999

Claims 1-7, 11, 13, 14, 16-21, 29, 31-37, 41, and 43 stand rejected under 35 U.S.C. § 102(b) as anticipated by Baty.

Claims 8-10, 15, 22-28, and 38-40 stand rejected under 35 U.S.C. § 103(a) as obvious over Baty in view of Kim.

Claim 44 stands rejected under 35 U.S.C. § 103(a) as obvious over Baty.

Rather than repeat the arguments here, we make reference to the Briefs (Appeal Brief filed May 1, 2008; Reply Brief filed Sep. 11, 2008) and the Answer (mailed July 31, 2008) for the respective positions of Appellant and the Examiner. Only those arguments actually made by Appellant have been considered in this decision. Arguments that Appellant did not make in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

ISSUE

The pivotal issue is whether Baty's ports 12a, . . . 24c (Baty Fig. 1; col. 3, ll. 62-68) meet the claimed "plurality of sets of second nodes, wherein each second node is connected to one of the first nodes, and wherein each of the second nodes is interconnected to every other second node," as recited in claim 1.

PRINCIPLES OF LAW

[T]he [US]PTO applies to the verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification.

In re Morris, 127 F.3d 1048, 1054 (Fed. Cir. 1997). “Though understanding the claim language may be aided by the explanations contained in the written description, it is important not to import into a claim limitations that are not part of the claim.” *SuperGuide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004).

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987). “These elements must be arranged as in the claim under review, but this is not an ‘ipsissimis verbis’ test.” *In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990) (citations omitted).

ANALYSIS

Claim 1

Referring to Baty’s Fig. 1, the Examiner asserts that the “first nodes” recited in claim 1 read on Baty’s nodes 12, . . . 24, the “first forwarding nodes” recited in claim 1 read on Baty’s buses 26, . . . 38, and the “second nodes” recited in claim 1 read on the ports 12a, . . . 24c of Baty’s nodes (Ans. 3-4, 9-10). Although raised in the Appeal Brief, the Reply Brief does not contest the Examiner’s explanations (Ans. 9) of Baty’s fabrics and mathematical form, or that the claimed “first forwarding nodes” read on

Baty’s “buses” 26, . . . 28 (Reply Br. 1; *but cf.* App. Br. 11). We find the Examiner’s explanations on these points to be reasonable and concur with the Examiner.

Appellant contends Baty does not disclose “a plurality of sets of second nodes, wherein each second node is connected to one of the first nodes, and wherein each of the second nodes is interconnected to every other second node” (App. Br. 10; Reply Br. 1-2). Appellant argues that the Examiner’s broad reading of “node” to include Baty’s “ports” is inconsistent with the use of the terms in the Specification (App. Br. 11) and renders the term “node” essentially meaningless (App. Br. 10; Reply Br. 1). Appellant further points to examples of “end nodes” in the Specification, which includes a discussion of “nodes” having “network interface ports” (App. Br. 11; Spec ¶ [0054]). However, while Appellant concedes that Baty’s use of the terms “node” and “port” is consistent with the Specification (App. Br. 11), Appellant points to differences in the technologies contemplated by Appellant and Baty (*id.*).

As Appellant has recognized (Reply Br. 2), the Examiner construes the disputed claims with the broadest reasonable interpretation consistent with the Specification, *see Morris*, 127 F.3d at 1054, without importing limitations from the Specification into the claim, *SuperGuide*, 358 F.3d at 875. We observe that, as the Examiner implies (Ans. 9-10), Appellant’s arguments rely on limitations not found in the claim. Claim 1 does not recite “end nodes” or nodes with “ports,” nor does it recite limitations that distinguish the claim over Baty based on the contemplated technologies. Furthermore, whether a reference anticipates a claim depends on what the reference discloses to one skilled in the art, not on the vocabulary used in the

reference. *See Bond*, 910 F.2d at 832. Accordingly, we are not persuaded by these arguments. We also note that Appellant's Specification, without providing a definition, indicates that the terms "node" and "port" may be used in the art ("field") interchangeably.

For clarity of discussion, we will call these "endpoints" while using the term "node" for the various nodes V1-V5. In the field to which it pertains, either term, "endpoint" or "node," or even other terms (e.g., "port"), may be used to describe the same items. Accordingly, no definitions are made here. Rather, the usage of specific terms is meant to lend toward understanding the present disclosure.

(Spec. ¶ [0088]).

Appellant further argues that Baty's ports 12a, . . . 24c do not meet the recitation in claim 1 that "each of the second nodes is interconnected to every other second node" (Reply Br. 2). In response, the Examiner points out that second node "12a is connected to every other second nodes [sic] by [first forwarding nodes] 26, 28 – 38 and each interface section inside each [first] node, e.g. 40 on [node] 12" (Ans. 9-10). Appellant points to Baty at column 5, lines 3-11, as contradicting the presence of a connection through the interface section (Reply Br. 2). However, we find no contradiction and find support for the Examiner's findings in Baty's disclosure that "[t]he interface circuitry 40 is connected to the processing section by an internal bus line 44 which is multiplexed to carry addressing and data signals, as well as command signals" (Baty col. 5, ll. 8-11). Therefore, we conclude the Examiner's explanation and findings to be reasonable and further note that claim 1 recites no limitation as to how the connections are made or how they function.

Appellant further argues in the Reply Brief that if the second nodes (Baty's ports 12a . . . 24c) are all interconnected, then the first nodes (Baty's nodes 12, . . . 24) do not meet the limitation that "each pair of first nodes appears in only one group of the b groups" (Reply Br. 2). We disagree. We find nothing in the claim that would preclude connections between the plurality of first nodes in addition to those that define the b groups. Therefore, we find Appellant's argument relies on limitations not found in the claim.

Based on the foregoing, we sustain the rejections of claim 1, as well as claims 2, 8-10, 13-17, 22-28, and 31 which are not argued separately or are indicated as falling with claim 1 (App. Br. 12, 18-19, 24).

Claim 32

With regard to claim 32, Appellant has further argued that Baty does not disclose "providing a mathematical representation of the plurality of first nodes in the BIBD design and converting the mathematical representation to a physical design." (App. Br. 24-25). However, Appellant's Reply Brief does not point to any evidence to challenge the Examiner's reasonable explanation (Ans. 9) of the mathematical correlation between Baty and claim 32. We further note that Baty discloses using mathematical representations of the nodes (*see, e.g.*, col. 4, ll. 3-43) and constructing a network in accordance with the mathematical representation (col. 4, ll. 44-47). Therefore, in view of the foregoing and for the reasons stated for claim 1, *supra*, we also sustain the rejections of claim 32 as well as claims 33, 38-40, 43, and 44 which are indicated as falling with claim 32 (App. Br. 25, 30).

Claim 3

Appellant contends that Baty does not disclose that “each first node includes at least one first switch,” as recited by claim 3 (App. Br. 12-13). In response, the Examiner points out that

[a]s disclosed in column 5, lines 12 – 31, Baty teaches during data transmission, interface circuitry 40 and its processing logic section 42 within each first node determines through which port data should be routed to a destination, and routing data from one port to another is the operation of a switch.

(Ans. 10-11). Regarding claim 5, the Examiner further points out that in Baty

the set of second node [sic] (12a - 12c) is interconnected to the set of second node [sic] (14a – 14c) via the first switch (40 and 42) since the first switch (40 and 42) determines how to route data from the first set of second node [sic] (12a - 12c) to the second set (14a - 14c).

(Ans. 11).

We agree with the Examiner’s findings and conclusions and observe that Appellant has provided no further rebuttal in the Reply Brief nor has pointed to any evidence to counter the Examiner’s reasonable explanations of the rejections. Appellant’s arguments regarding claims 4 (App. Br. 13), 5 (App. Br. 14-15), 6 (App. Br. 15-16), 18 (App. Br. 19), 19 (App. Br. 20), 20 (App. Br. 21-22), 34 (App. Br. 25), 35 (App. Br. 26), and 36 (App. Br. 27-28) are substantially the same as those made for claim 3. Accordingly, we sustain the rejections of claims 3-6, 18-20, and 34-36.

Claim 7

Appellant contends that Baty does not disclose that “at least one first switch is shared with at least two of said plurality of sets of second nodes” as recited in claim 7 (App. Br. 16-17). Appellant repeats the arguments made

for claim 3 and further asserts that the Examiner has interpreted the recited “sets of second nodes” inconsistently (App. Br. 16-17). The Examiner responds by further explaining the rejection as follows:

The Examiner’s interpretation of the limitation “a switch is shared with two sets of second nodes” is no different than that of the Appellant’s [sic]. As Appellant’s “sharing” is used to refer to an indirect kind of sharing (see page 5 of the Appeal Brief, Appellant states that the first switch (240 on Fig. 14) is shared with a first set of second nodes (230 – 236, which is directly connected to switch 240) and a second set of second nodes (second nodes connected to V2 192, which is indirectly connected to the switch 240)). Thus, Appellant’s interpretation of a switch being shared with two sets of second node is that the switch can be used by second nodes that are directly connected to it and also second nodes that are indirectly connected to it, which is the same as the Examiner’s interpretation.

(Ans. 12).

Therefore, the Examiner provides a reasonable explanation of the rejection, which remains unrebutted in the Reply Brief as Appellant does not point to any evidence to counter the Examiner’s explanation. Appellant argues patentability of claims 21 (App. Br. 22) and 37 (App. Br. 28) based on substantially the same assertions made for claim 7. Accordingly, for the reasons set forth for claim 3, *supra*, we sustain the rejections of claims 7, 21, and 37.

Claim 11

We also remain unconvinced by Appellant’s contention that, in rejecting claim 11, the Examiner has applied an overly broad interpretation of the claim language (App. Br. 17). Such argument is unsupported by any evidence in the Briefs and is similar to that presented for claim 1 which we found unpersuasive as discussed *supra*. We further find the Examiner’s

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explanation regarding the reading of “port” on the connections 46a and 26 to Baty’s node 12a to be reasonable (Ans. 12; *see also* Spec. ¶ [0088]).

Accordingly, we sustain the rejections of claim 11 as well as claims 29 and 41 which are similarly argued (App. Br. 23; 28-29).

ORDER

The decision of the Examiner to reject claims 1-11, 13-29, 31-41, 43, and 44 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(v).

AFFIRMED

babc

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